LIU XINGCHEN

Doctor of Philosophy
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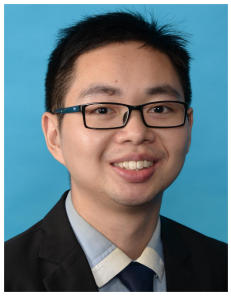

EDUCATION

National University of Singapore (NUS) Aug. 2017 - Aug. 2021

- Industrial Systems Engineering & Management, *Ph.D.*, Supervisor: Assoc. Prof. YE Zhi-Sheng.

University of Science and Technology of China (USTC) Sep. 2014 - July 2017

- Instrument Science & Technology, *Master*, Supervisor: Prof. HE Qingbo (Supported by Program for the Top Young Innovative Talents).

Hunan University (HNU) Sep. 2010 - July 2014

- Measurement & Control Technology & Instruments, *Bachelor*.

WORK EXPERIENCE

City University of Hong Kong (CityU) Jan. 2022 - Dec. 2022

- Advanced Design and Systems Engineering, *Postdoc.*, Supervisor: Chair Prof. XIE Min (Academician of the European Academy of Sciences and Arts)

RESEARCH INTEREST

- Process Monitoring, Health Management, Reliability
- Machine Learning

PARTICIPATED PROJECT

- National Science Foundation of China, Proj. 72071138, Research on Fast and high Precision Performance Degradation Analysis based on Approximate Generalized Pivot Quantities, Jan. 2021 - Dec. 2024, on progress.
- Jiangsu Province Science and Technology Department, Proj. SBK2018020860, Research on Real-Time Cooperative Remaining Useful Life Prediction for Clusters of Multiple Performance Degradation Systems, Feb. 2018 - Oct. 2021, completed.
- National Research Foundation Singapore, Proj. R-261-513-003-281, Integrated Condition Monitoring and Advanced Preventive Maintenance of Power Plants, April 2016 - March 2021, completed.
- National Science Foundation of China, Proj. 51475441, Key Theoretical Research on Wayside Fault Diagnosis of High-Speed Train Bearings under Complex Acoustic Environment, Jan. 2015 - Dec. 2018, completed.

ACADEMIC ACHIEVEMENTS

Journal Articles (Accepted)

1. **Liu, X.**, Du, J., & Ye, Z.-S. (2022). A covariate-regulated sparse subspace learning model and its application to process monitoring and fault isolation. Technometrics, tentatively accepted. (Top Journal in Industrial Statistics)
2. **Liu, X.**, Du, J., & Ye, Z.-S. (2022). A condition monitoring and fault isolation system for wind turbine based on SCADA data. IEEE Transactions on Industrial Informatics, 18(2), 986–995. (Top Journal, IF=10.215)
3. **Liu, X.**, Sun, Q., Ye, Z.-S., & Yildirim, M. (2021). Optimal multi-type inspection policy for systems with imperfect online monitoring. Reliability Engineering & System Safety, 207, 107335. (Top Journal, IF=6.188)
4. **Liu, X.**, Hu, Z., He, Q., Zhang, S., & Zhu, J. (2017). Doppler distortion correction based on microphone array and matching pursuit algorithm for a wayside train bearing monitoring system. Measurement Science and Technology, 28(10), 105006.
5. **Liu, X.**, Hu, Z., He, Q., & Zhu, J. (2017). Doppler distortion correction method based on rotation matching of time-frequency ridge lines. Journal of Vibration and Shock, 2017, 17.
6. Zhu, J., Wang, C., Hu, Z., Kong, F., & **Liu, X.** (2017). Adaptive variational mode decomposition based on artificial fish swarm algorithm for fault diagnosis of rolling bearings. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science,231(4), 635–654.

7. Hu, Z., Wang, C., Zhu, J., **Liu, X.**, & Kong, F. (2016). Bearing fault diagnosis based on an improved morphological filter. Measurement,80, 163−178.

Journal Articles (Under Review)

8. Dai, L., **Liu, X.**, Hu, Z., Mao, L., Huang, W., & Wu, Q. (2022). On-board SOH Estimation of Lithium-ion Batteries with Sequential Gaussian Process. IEEE Transactions on Industrial Informatics, under review.
9. Kong, J., Cui, D., Hou, B., **Liu, X.**, & Wang, D. (2022). New Short-long-term Degradation Model for Precise Battery Health Prognostics. IEEE Transactions on Industrial Electronics, under review.
10. Yu,Y., Xiong, Q., Ye, Z.-S., **Liu, X.**, Li,Q., & Wang K. (2022). Acoustic Reconstruction of Temperature Profiles: From Time Measurement to Reconstruction Algorithm. IEEE Transactions on Instrumentation and Measurement, under review.

Journal Articles (On Progress)

11. Degradation Modeling for Lithium-ion Battery under Calendar and Cyclic Aging with a Monotonic Spline-Based Wiener Process.
12. Degradation analysis using a novel Kalman filter with robustness to distributionally uncertainty and measurement outlier.

International Conferences

1. **Liu, X.**, & Ye, Z.-S. (2021). A covariate-regulated sparse subspace learning model and its application to process monitoring and fault isolation. The 3rd International Conference on System Reliability and Safety Engineering (SRSE 2021).
2. Yang, L., Li, X., **Liu, X.**, & Zhu, F., (2022). A Remaining Useful Life Prediction Framework for Aero-engine Using Information Entropy-based Criterion and PCA-RVM. The 13th International Conference on Reliability, Maintainability, and Safety (ICRMS 2022).

Academic Activities

- Section co-chair of the 3rd International Conference on System Reliability and Safety Engineering (SRSE 2021).
- Committee member of the International Conference on Machine Vision and Information Technology (CMVIT 2021-2022).
- Reviewer of some well-known journals, including IISE Transactions, IEEE Transactions on Industrial Informatics, IEEE Transactions on Reliability, IEEE Transactions on Instrument and Measurement, Reliability Engineering & System Safety and Measurement.

Honors

University of Science and Technology of China, *Outstanding Graduates* July 2017

Hunan University, *Outstanding Graduates* July 2014